Electronic TUBES

6BG6-GA — 19BG6-GA

BEAM PENTODE

FOR TV HORIZONTAL-DEFLECTION AMPLIFIER APPLICATIONS

DESCRIPTION AND RATING

The 6BG6-GA is a beam-power pentode designed primarily for use as the horizontal deflection amplifier in television receivers. Electrically and physically, the 6BG6-GA is a replacement for the 6BG6-G; the 6BG6-GA differs primarily from the 6BG6-G by employing a straight-sided T-12 envelope.

Except for heater ratings, the 19BG6-GA is identical to the 6BG6-GA.

GENERAL

ELECTRICAL

	6BG6-GA	19BG5-GA
Cathode—Coated Unipotential		
Heater Voltage, AC or DC	6.3	18.9 Volts
Heater Current	0.9	0.3 Amperes
Direct Interelectrode Capacitances, approximate*		
Grid-Number 1 to Plate		0.8 μμf
Input		11 μμf
Output		6.0 μμf

MECHANICAL

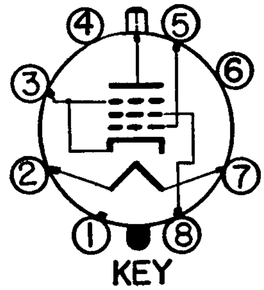
Mounting Position—Vertical†
Envelope—T-12, Glass
Base—B8-110, Short Medium Shell Octal 8-Pin
Top Cap—C1-1, Small

MAXIMUM RATINGS

HORIZONTAL-DEFLECTION AMPLIFIER SERVICE‡
DESIGN-CENTER VALUES UNLESS OTHERWISE INDICATED

DC Plate-Supply Voltage (Boost+DC Power Supply)	700	Volts
Peak Positive Pulse Plate Voltage	6600§	Volts
Peak Negative Pulse Plate Voltage	1500	Volts
Screen Voltage	350	Volts
Peak Negative Grid-Number 1 Voltage	300	Volts
Plate Dissipation π	20	Watts
Screen Dissipation	3.2	Watts
DC Cathode Current	110	Milliamperes
Peak Cathode Current	400	Milliamperes
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode		
DC Component	100	Volts
Total DC and Peak	200	Volts
Heater Negative with Respect to Cathode		
Total DC and Peak	200	Volts
Grid-Number 1 Circuit Resistance	0.47	Megohms
Bulb Temperature at Hottest Point	210	C

BASING DIAGRAM

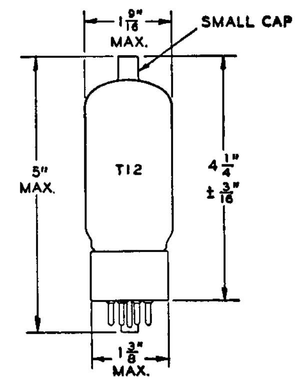


RETMA 5BT

TERMINAL CONNECTIONS

Pin 1—No Connection
Pin 2—Heater
Pin 3—Cathode and Beam Plates
Pin 4—No Connection
Pin 5—Grid Number 1
Pin 6—No Connection
Pin 7—Heater
Pin 8—Grid Number 2 (Screen)
Cap—Plate

PHYSICAL DIMENSIONS



GENERAL ELECTRIC

Supersedes ET-T925, dated 4-55

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Plate Voltage	60	250	Volts
Screen Voltage	250	250	Volts
Grid-Number 1 Voltage	0△	−15	Volts
Plate Resistance, approximate	...	25000	Ohms
Transconductance	...	6000	Micromhos
Plate Current	180	75	Milliamperes
Screen Current	18	4.0	Milliamperes
Grid-Number 1 Voltage, approximate $I_b = 1.0$ Milliampere	...	−45	Volts
Triode Amplification Factor♦	...	8.0	

* Without external shield.

† Horizontal operation is permitted if pins 2 and 7 are in a vertical plane.

‡ For operation in a 525-line, 30-frame television system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.

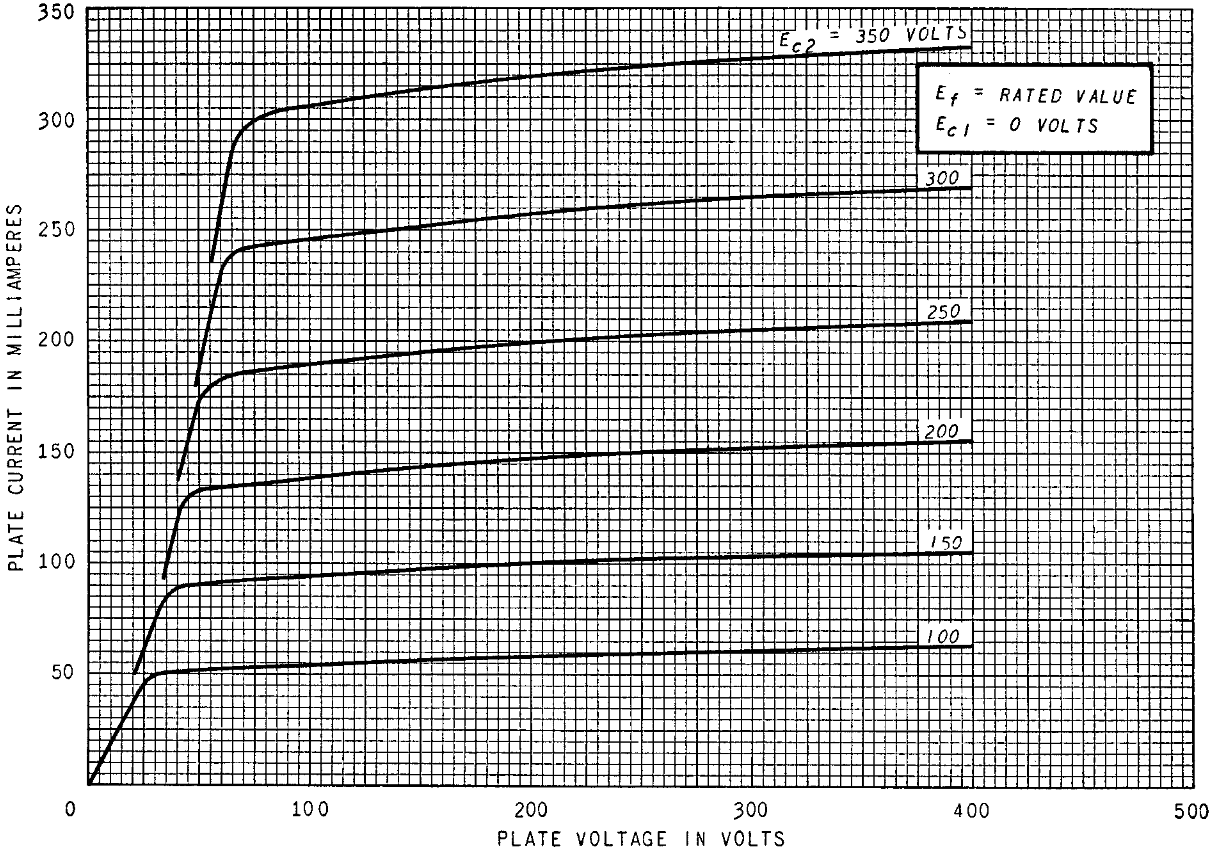
§ Value given is to be considered as an Absolute Maximum Rating. In this case, the combined effect of supply-voltage variation, manufacturing variation including components in the equipment, and adjustment of equipment controls should not cause the rated value to be exceeded.

π In stages operating with grid-leak bias, an adequate cathode-bias resistor or other suitable means is required to protect the tube in the absence of excitation.

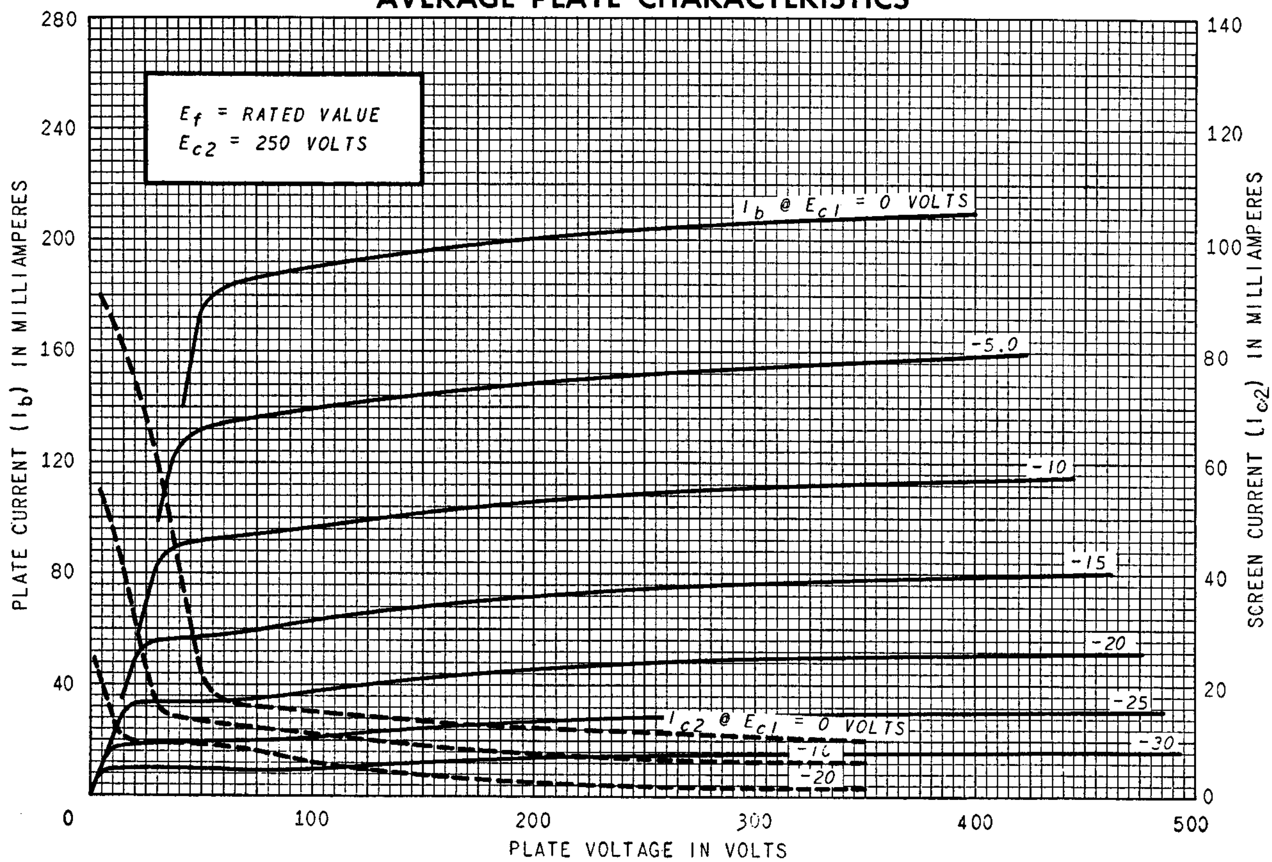
△ Applied for very short interval so as not to damage tube.

♦ Triode connection (screen tied to plate) with Eb = Ec2 = 250 volts and Ec1 = −15 volts.

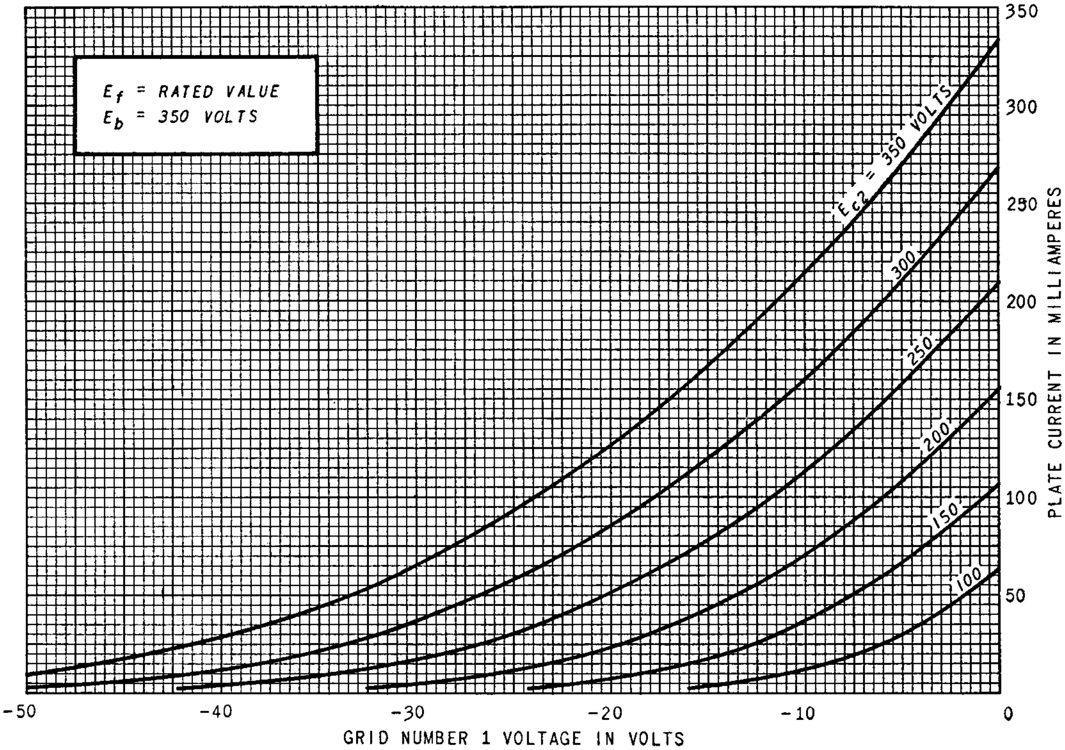
AVERAGE PLATE CHARACTERISTICS



AVERAGE PLATE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS

